



# ***STIC Search Report***

***EIC 1700***

**STIC Database Tracking Number: 148855**

**TO: Duc Truong  
Location: 10D71  
Art Unit : 1711  
April 12, 2005**

**Case Serial Number: 10779483**

**From: Les Henderson  
Location: EIC 1700  
REM 4B28 / 4A30  
Phone: 571-272-2538**

**Leslie.henderson@uspto.gov**

## **Search Notes**



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713
- Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

## SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name: Dr. W. Z. D. C. Examiner #: 69332 Date: 3/24/05  
 Art Unit: 1711 Phone Number 30 2-181 Serial Number: 6779, 483  
 Mail Box and Bldg/Room Location: 6071 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Product of claim 43 derived from the process of claim 46.  
 Charles

\*\*\*\*\*

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>244</u>	NA Sequence (#) _____	STN <u>\$ 609.04</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>3</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>4/12/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>60</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>180</u>	Other _____	Other (specify) _____

=> d his

(FILE 'HOME' ENTERED AT 13:46:47 ON 12 APR 2005)

FILE 'HCAPLUS' ENTERED AT 13:46:59 ON 12 APR 2005

E US20040225153/PN

L1 1 S US20040225153/PN

SEL L1 RN

FILE 'REGISTRY' ENTERED AT 13:48:07 ON 12 APR 2005

L2 30 S E1-E30

E PHOSPHAZENE/PCT

E PHOSPHAZENE/CI

E PHOSPHAZENE/CN

FILE 'LREGISTRY' ENTERED AT 13:51:20 ON 12 APR 2005

L3 STR

FILE 'REGISTRY' ENTERED AT 14:07:50 ON 12 APR 2005

L4 50 S L3

L5 SCR 2043

L6 30 S L5 AND L3

FILE 'LREGISTRY' ENTERED AT 15:10:06 ON 12 APR 2005

L7 STR L3

L8 STR

FILE 'REGISTRY' ENTERED AT 15:19:09 ON 12 APR 2005

L9 50 S L7

L10 1 S L8

L11 0 S L7 AND L8

FILE 'LREGISTRY' ENTERED AT 15:23:49 ON 12 APR 2005

L12 STR L8

FILE 'REGISTRY' ENTERED AT 15:24:44 ON 12 APR 2005

L13 1 S L12

FILE 'REGISTRY' ENTERED AT 15:25:16 ON 12 APR 2005

L14 0 S L7 AND L12

FILE 'LREGISTRY' ENTERED AT 15:40:00 ON 12 APR 2005

L15 STR L8

FILE 'REGISTRY' ENTERED AT 15:42:36 ON 12 APR 2005

L16 0 S L15

FILE 'LREGISTRY' ENTERED AT 15:42:58 ON 12 APR 2005

L17 STR L15

FILE 'REGISTRY' ENTERED AT 15:43:48 ON 12 APR 2005

L18 9 S L17

L19 0 S L7 AND L17

FILE 'LREGISTRY' ENTERED AT 15:47:24 ON 12 APR 2005

L20 STR L17

L21 STR L8

FILE 'REGISTRY' ENTERED AT 15:50:21 ON 12 APR 2005

L22 1 S L21  
 L23 0 S L21 AND L7  
 L24 9 S L20  
 L25 0 S L7 AND L20

FILE 'LREGISTRY' ENTERED AT 15:54:25 ON 12 APR 2005  
 L26 STR L20

FILE 'REGISTRY' ENTERED AT 15:55:17 ON 12 APR 2005

FILE 'LREGISTRY' ENTERED AT 15:55:42 ON 12 APR 2005  
 L27 STR L17

FILE 'REGISTRY' ENTERED AT 15:57:15 ON 12 APR 2005  
 L28 13 S L26

FILE 'LREGISTRY' ENTERED AT 15:58:47 ON 12 APR 2005  
 L29 STR L15

FILE 'REGISTRY' ENTERED AT 15:59:24 ON 12 APR 2005  
 L30 1 S L29  
 L31 13 S L27

FILE 'LREGISTRY' ENTERED AT 16:05:33 ON 12 APR 2005  
 L32 STR L21

FILE 'REGISTRY' ENTERED AT 16:06:04 ON 12 APR 2005  
 L33 12 S L32  
 L34 0 S L7 AND L32

FILE 'LREGISTRY' ENTERED AT 16:08:13 ON 12 APR 2005  
 L35 STR L32

FILE 'REGISTRY' ENTERED AT 16:09:26 ON 12 APR 2005  
 L36 38 S L35  
 L37 0 S L35 AND L7  
 L38 782 S L35 FUL  
 SAV L38 TRU483/A  
 L39 72232 S L7 FUL  
 SAV TEMP L39 TRU483A/A  
 L40 0 S L7 AND L35  
 L41 0 S L7 AND L35 FUL

FILE 'HCAPLUS' ENTERED AT 16:24:25 ON 12 APR 2005  
 L42 372 S L38  
 L43 38803 S L39  
 L44 6 S L42 AND L43  
 L45 1 S L1 AND L44  
 => => d que stat l41  
 L7 STR

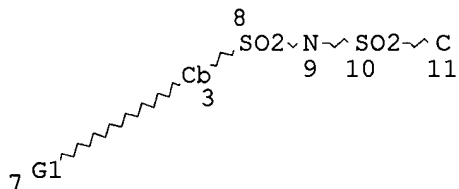
P~N  
 1 2

#### NODE ATTRIBUTES:

CONNECT IS E4 RC AT 1  
 CONNECT IS E2 RC AT 2  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE  
L35 STR



VAR G1=O/NH  
NODE ATTRIBUTES:  
NSPEC IS RC AT 11  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE  
L41 0 SEA FILE=REGISTRY SSS FUL L7 AND L35

100.0% PROCESSED 47 ITERATIONS  
SEARCH TIME: 00.00.01

0 ANSWERS

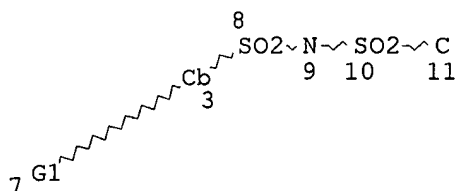
=> d que stat 144  
L7 STR

P~N  
1 2

NODE ATTRIBUTES:  
CONNECT IS E4 RC AT 1  
CONNECT IS E2 RC AT 2  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE  
L35 STR



VAR G1=O/NH  
 NODE ATTRIBUTES:  
 NSPEC IS RC AT 11  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED  
 GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE  
 L38 782 SEA FILE=REGISTRY SSS FUL L35  
 L39 72232 SEA FILE=REGISTRY SSS FUL L7  
 L42 372 SEA FILE=HCAPLUS ABB=ON PLU=ON L38  
 L43 38803 SEA FILE=HCAPLUS ABB=ON PLU=ON L39  
 L44 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L42 AND L43

=> d l44 1-6 ibib hitstr hitind

L44 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:696406 HCAPLUS  
 DOCUMENT NUMBER: 141:207673  
 TITLE: Synthesis of polyphosphazenes with sulfonimide  
 side groups, blends, membranes, and their use in  
 fuel cells  
 INVENTOR(S): Hofmann, Michael A.; Allcock, Harry R.; Ambler,  
 Catherine M.; Maher, Andrew E.; Wood, Richard  
 M.; Welna, Daniel T.  
 PATENT ASSIGNEE(S): The Penn State Research Foundation, USA  
 SOURCE: PCT Int. Appl., 50 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004072141	A2	20040826	WO 2004-US4316	20040213

W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB,  
 BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO,  
 CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE,  
 EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU,  
 HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR,  
 KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD,

MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT,  
 BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
 IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI,  
 CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG,  
 CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2004225153 A1 20041111 US 2004-779483

200402  
13

PRIORITY APPLN. INFO.:

US 2003-450178P P

200302  
13

OTHER SOURCE(S): MARPAT 141:207673

IT **457101-93-8P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (intermediate; polyphosphazenes with phenoxy sulfonyl side  
 groups for use in fuel cells)

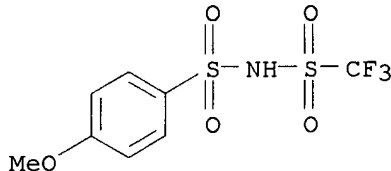
RN 457101-93-8 HCAPLUS

CN Benzenesulfonamide, 4-methoxy-N-[(trifluoromethyl)sulfonyl]-, compd.  
 with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 457101-92-7

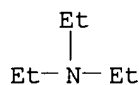
CMF C8 H8 F3 N O5 S2



CM 2

CRN 121-44-8

CMF C6 H15 N



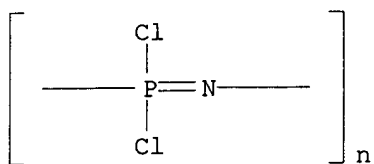
IT **26085-02-9DP**, Poly(dichlorophosphazene), reaction products  
 with phenoxy trifluoromethanesulfonyl **457101-95-0DP**,  
 reaction products with poly(dichlorophosphazene)

RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (polyphosphazenes with phenoxy sulfonyl side groups for use in  
 fuel cells)

RN 26085-02-9 HCAPLUS

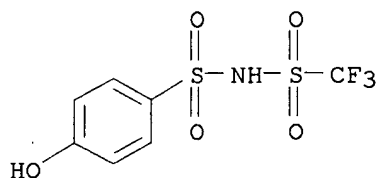
CN Poly[nitrilo(dichlorophosphoranylidene)] (8CI, 9CI) (CA INDEX NAME)





RN 457101-95-0 HCAPLUS

CN Benzenesulfonamide, 4-hydroxy-N-[(trifluoromethyl)sulfonyl]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

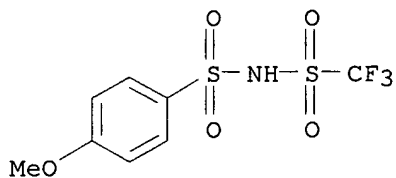
IT **457101-94-9P 743478-17-3P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)

(polyphosphazenes with phenoxy sulfonimide side groups for use in fuel cells)

RN 457101-94-9 HCAPLUS

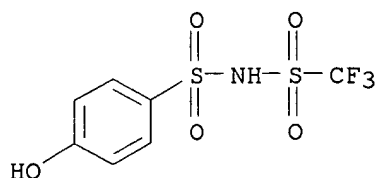
CN Benzenesulfonamide, 4-methoxy-N-[(trifluoromethyl)sulfonyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na

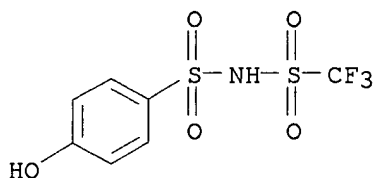
RN 743478-17-3 HCAPLUS

CN Benzenesulfonamide, 4-hydroxy-N-[(trifluoromethyl)sulfonyl]-, monosodium salt (9CI) (CA INDEX NAME)



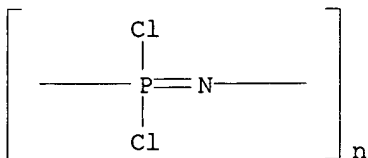
● Na

IC ICM C08G  
 CC 35-6 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 52  
 IT **457101-93-8P**  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (intermediate; polyphosphazenes with phenoxy sulfonimide side  
 groups for use in fuel cells)  
 IT **26085-02-9DP**, Poly(dichlorophosphazene), reaction products  
 with phenoxy trifluoromethanesulfonimide **457101-95-0DP**,  
 reaction products with poly(dichlorophosphazene)  
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (polyphosphazenes with phenoxy sulfonimide side groups for use in  
 fuel cells)  
 IT **457101-94-9P 743478-17-3P**  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (polyphosphazenes with phenoxy sulfonimide side groups for use in  
 fuel cells)  
 L44 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:670193 HCAPLUS  
 DOCUMENT NUMBER: 141:368255  
 TITLE: Control of water uptake of polyphosphazene based  
 fuel cell membranes by silicate  
 inter-penetrating networks  
 AUTHOR(S): Wood, Richard M.; Allcock, Harry R.  
 CORPORATE SOURCE: Department of Chemistry, The Pennsylvania State  
 University, University Park, PA, 16802, USA  
 SOURCE: Polymeric Materials: Science and Engineering  
 (2004), 91, 683-684  
 CODEN: PMSLEDG; ISSN: 0743-0515  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal; (computer optical disk)  
 LANGUAGE: English  
 IT **743478-17-3**  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (control of water uptake of polyphosphazene based fuel cell  
 membranes by silicate inter-penetrating networks)  
 RN 743478-17-3 HCAPLUS  
 CN Benzenesulfonamide, 4-hydroxy-N-[(trifluoromethyl)sulfonyl]-,  
 monosodium salt (9CI) (CA INDEX NAME)



● Na

IT	<b>26085-02-9DP</b> , Poly(dichlorophosphazene), reaction product with sodium 4-methylphenoxide and sodium sulfonimide phenolate, and interpenetrating polymer networks via subsequent reaction product with 3,3,3-trifluoropropyltrimethoxy silane, crosslinked RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (interpenetrating network composite; control of water uptake of polyphosphazene based fuel cell membranes by silicate inter-penetrating networks)
RN	26085-02-9 HCAPLUS
CN	Poly[nitrilo(dichlorophosphoranylidyne)] (8CI, 9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 35, 38, 49

IT 429-60-7, 3,3,3-Trifluoropropyltrimethoxy silane 1121-70-6D,  
Sodium 4-methylphenoxide, reaction product with  
poly(dichlorophosphazene) 7647-01-0, Hydrochloric acid, reactions  
**743478-17-3**

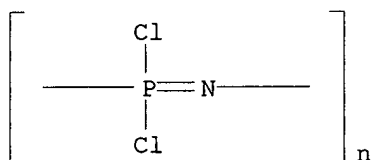
RL: RCT (Reactant); RACT (Reactant or reagent)  
(control of water uptake of polyphosphazene based fuel cell  
membranes by silicate inter-penetrating networks)

IT **26085-02-9DP**, Poly(dichlorophosphazene), reaction product  
with sodium 4-methylphenoxide and sodium sulfonimide phenolate, and  
interpenetrating polymer networks via subsequent reaction product  
with 3,3,3-trifluoropropyltrimethoxy silane, crosslinked

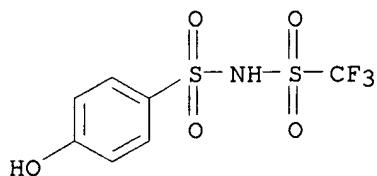
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic  
preparation); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(interpenetrating network composite; control of water uptake of  
polyphosphazene based fuel cell membranes by silicate  
inter-penetrating networks)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

ACCESSION NUMBER: 2003:666841 HCAPLUS  
 DOCUMENT NUMBER: 139:352600  
 TITLE: Novel proton conductive polyphosphazenes for use as fuel cell materials  
 AUTHOR(S): Ambler, Catherine M.; Maher, Andrew E.; Wood, Richard M.; Allcock, Harry R.; Chalkova, Elena; Lvov, Serguei N.  
 CORPORATE SOURCE: Department of Chemistry, State College, The Pennsylvania State University, PA, 16802, USA  
 SOURCE: Polymeric Materials Science and Engineering (2003), 89, 595  
 CODEN: PMSEDG; ISSN: 0743-0515  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal; (computer optical disk)  
 LANGUAGE: English  
 IT **26085-02-9DP**, Poly(dichlorophosphazene), reaction product with sodium 4-methylphenoxide and sodium sulfonimide phenolate  
**457101-95-0DP**, reaction product with poly(dichlorophosphazene)  
 RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (novel proton conductive polyphosphazenes for use as fuel cell materials)  
 RN 26085-02-9 HCAPLUS  
 CN Poly[nitrilo(dichlorophosphoranylidene)] (8CI, 9CI) (CA INDEX NAME)



RN 457101-95-0 HCAPLUS  
 CN Benzenesulfonamide, 4-hydroxy-N-[(trifluoromethyl)sulfonyl]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 35, 38, 76  
 IT 1121-70-6DP, Sodium 4-methylphenoxide, reaction product with poly(dichlorophosphazene) **26085-02-9DP**,  
 Poly(dichlorophosphazene), reaction product with sodium 4-methylphenoxide and sodium sulfonimide phenolate

**457101-95-ODP**, reaction product with  
poly(dichlorophosphazene)

RL: DEV (Device component use); POF (Polymer in formulation); PRP  
(Properties); SPN (Synthetic preparation); PREP (Preparation); USES  
(Uses)

(novel proton conductive polyphosphazenes for use as fuel cell  
materials)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN  
THE RE FORMAT

L44 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:531846 HCAPLUS

DOCUMENT NUMBER: 137:217352

TITLE: Synthesis of Polyphosphazenes with Sulfonimide  
Side Groups

AUTHOR(S): Hofmann, Michael A.; Ambler, Catherine M.;  
Maher, Andrew E.; Chalkova, Elena; Zhou,  
Xiangyang Y.; Lvov, Serguei N.; Allcock, Harry  
R.

CORPORATE SOURCE: The Energy Institute, Department of Chemistry,  
Pennsylvania State University, University Park,  
PA, 16802, USA

SOURCE: Macromolecules (2002), 35(17), 6490-6493  
CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

IT **457101-93-8P 457101-94-9P 457101-96-1P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)

(in prepn and property of polyphosphazenes with sulfonimide side  
groups)

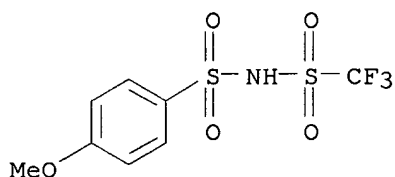
RN 457101-93-8 HCAPLUS

CN Benzenesulfonamide, 4-methoxy-N-[(trifluoromethyl)sulfonyl]-, compd.  
with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 457101-92-7

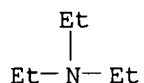
CMF C8 H8 F3 N O5 S2



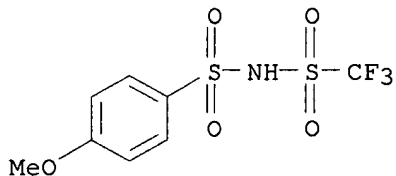
CM 2

CRN 121-44-8

CMF C6 H15 N

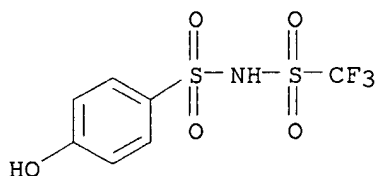


RN 457101-94-9 HCAPLUS  
CN Benzenesulfonamide, 4-methoxy-N-[(trifluoromethyl)sulfonyl]-, sodium salt (9CI) (CA INDEX NAME)

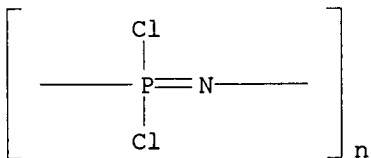


● Na

RN 457101-96-1 HCAPLUS  
CN Benzenesulfonamide, 4-hydroxy-N-[(trifluoromethyl)sulfonyl]- (9CI)  
(CA INDEX NAME)

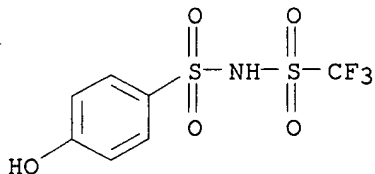


IT **26085-02-9DP**, Poly(dichlorophosphazene), reaction product with sodium 4-methylphenoxide and sodium sulfonimide phenolate  
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn and property of polyphosphazenes with sulfonimide side groups)  
RN 26085-02-9 HCAPLUS  
CN Poly[nitrilo(dichlorophosphoranylidene)] (8CI, 9CI) (CA INDEX NAME)



IT **457101-95-0P**  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn and property of polyphosphazenes with sulfonimide side groups)

groups)  
 RN 457101-95-0 HCAPLUS  
 CN Benzenesulfonamide, 4-hydroxy-N-[(trifluoromethyl)sulfonyl]-,  
 disodium salt (9CI) (CA INDEX NAME)



●2 Na

CC 35-8 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36, 38  
 IT **457101-93-8P 457101-94-9P 457101-96-1P**  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (in prepn and property of polyphosphazenes with sulfonimide side groups)  
 IT 1121-70-6DP, Sodium 4-methylphenoxide, reaction product with  
 poly(dichlorophosphazene) **26085-02-9DP**,  
 Poly(dichlorophosphazene), reaction product with sodium  
 4-methylphenoxide and sodium sulfonimide phenolate  
 RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic  
 preparation); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (prepn and property of polyphosphazenes with sulfonimide side groups)  
 IT **457101-95-0P**  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (prepn and property of polyphosphazenes with sulfonimide side groups)  
 REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L44 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1974:151132 HCAPLUS  
 DOCUMENT NUMBER: 80:151132  
 TITLE: Photographic gelatin-containing layers with  
 improved physical and photographic properties  
 INVENTOR(S): Himmelmann, Wolfgang; Balle, Gerhard; Nittel,  
 Fritz; Saleck, Wilhelm  
 PATENT ASSIGNEE(S): Agfa-Gevaert A.-G.  
 SOURCE: Ger. Offen., 26 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
------------	------	------	-----------------	------

DE 2219004	A1	19731108	DE 1972-2219004	197204 19
DE 2219004	C2	19840202		
BE 798111	A2	19731012	BE 1973-1004962	197304 12
US 3967966	A	19760706	US 1973-351850	197304 17
CA 1021186	A1	19771122	CA 1973-168930	197304 17
IT 980265	A	19740930	IT 1973-49519	197304 18
CH 585918	A	19770315	CH 1973-5628	197304 18
FR 2181027	A1	19731130	FR 1973-14432	197304 19
JP 49021133	A2	19740225	JP 1973-43712	197304 19
GB 1406752	A	19750917	GB 1973-18956	197304 19
PRIORITY APPLN. INFO.:			DE 1972-2219004	A 197204 19

IT 52382-61-3 52470-49-2 52679-46-6

RL: USES (Uses)

(photog. silver halide emulsion plasticizer)

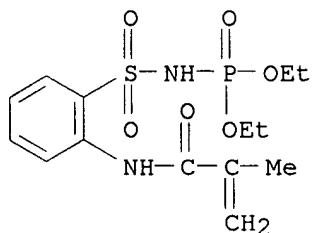
RN 52382-61-3 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with diethyl  
[[2-[(2-methyl-1-oxo-2-propenyl)amino]phenyl]sulfonyl]phosphoramidat  
e (9CI) (CA INDEX NAME)

CM 1

CRN 52382-60-2

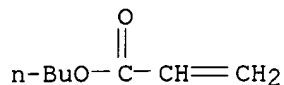
CMF C14 H21 N2 O6 P S





CM 2

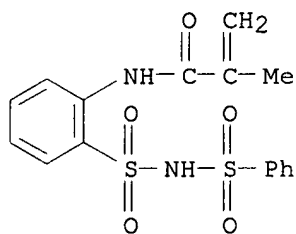
CRN 141-32-2  
CMF C7 H12 O2



RN 52470-49-2 HCAPLUS  
CN 2-Propenoic acid, butyl ester, polymer with 2-methyl-N-[2-  
[[ (phenylsulfonyl) amino] sulfonyl] phenyl]-2-propenamide (9CI) (CA  
INDEX NAME)

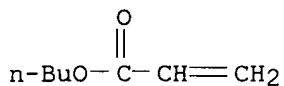
CM 1

CRN 52470-48-1  
CMF C16 H16 N2 O5 S2



CM 2

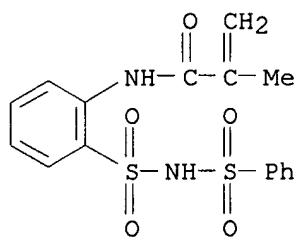
CRN 141-32-2  
CMF C7 H12 O2



RN 52679-46-6 HCAPLUS  
CN 2-Propenoic acid, butyl ester, polymer with ethyl 2-propenoate and  
2-methyl-N-[2-[[ (phenylsulfonyl) amino] sulfonyl] phenyl]-2-propenamide  
(9CI) (CA INDEX NAME)

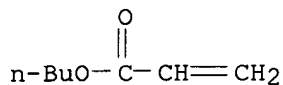
CM 1

CRN 52470-48-1  
CMF C16 H16 N2 O5 S2



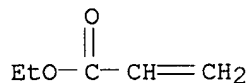
CM 2

CRN 141-32-2  
CMF C7 H12 O2



CM 3

CRN 140-88-5  
CMF C5 H8 O2



IC G03C  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
IT **52382-61-3 52470-49-2 52679-46-6**  
RL: USES (Uses)  
(photog. silver halide emulsion plasticizer)

L44 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1963:26965 HCAPLUS

DOCUMENT NUMBER: 58:26965

ORIGINAL REFERENCE NO.: 58:4456h,4457a-b

TITLE: Reaction of diaryldisulfonyl imides with phosphorus pentachloride

AUTHOR(S): Levchenko, E. S.; Derkach, N. Ya.; Kirsanov, A. V.

CORPORATE SOURCE: Inst. Org. Chem., Kiev

SOURCE: Zhurnal Obshchei Khimii (1962), 32, 1212-18

CODEN: ZOKHA4; ISSN: 0044-460X

DOCUMENT TYPE: Journal

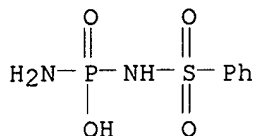
LANGUAGE: Unavailable

IT **89711-96-6**, Phosphorodiamidic acid, (phenylsulfonyl)-  
**90090-66-7**, Phosphoramidic acid, [(p-nitrophenyl)sulfonyl]-,  
dimethyl ester **90648-11-6**, Phosphorimidic acid,  
[(p-nitrophenyl)sulfonyl]-, trimethyl ester **91114-21-5**,

Phosphorodiamidic acid, [(p-chlorophenyl)sulfonyl]-  
**92303-41-8**, Phosphorodiamidic acid, (p-tolylsulfonyl)-  
**96433-16-8**, Dibenzenesulfonamide, 4-methoxy-4'-nitro-  
 (preparation of)

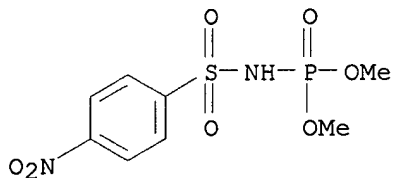
RN 89711-96-6 HCAPLUS

CN Phosphorodiamidic acid, (phenylsulfonyl)- (7CI) (CA INDEX NAME)



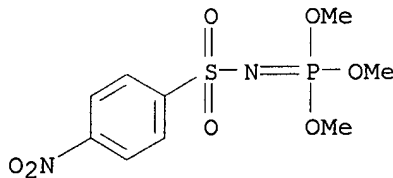
RN 90090-66-7 HCAPLUS

CN Phosphoramidic acid, [(p-nitrophenyl)sulfonyl]-, dimethyl ester  
 (6CI, 7CI) (CA INDEX NAME)



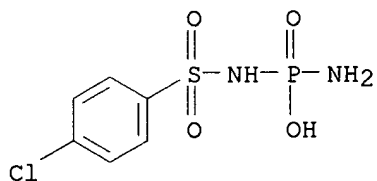
RN 90648-11-6 HCAPLUS

CN Phosphorimidic acid, [(p-nitrophenyl)sulfonyl]-, trimethyl ester  
 (6CI, 7CI) (CA INDEX NAME)



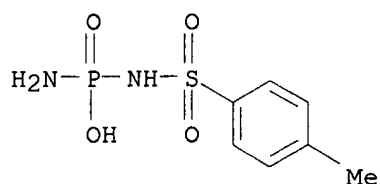
RN 91114-21-5 HCAPLUS

CN Phosphorodiamidic acid, [(p-chlorophenyl)sulfonyl]- (7CI) (CA INDEX NAME)



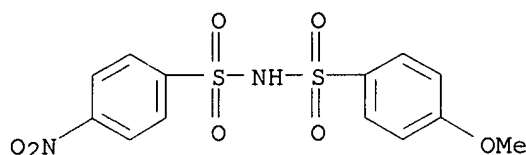
RN 92303-41-8 HCAPLUS

CN Phosphorodiamidic acid, (p-tolylsulfonyl)- (7CI) (CA INDEX NAME)



RN 96433-16-8 HCAPLUS

CN Dibenzenesulfonamide, 4-methoxy-4'-nitro- (7CI) (CA INDEX NAME)



CC 35 (Noncondensed Aromatic Compounds)

IT 70-55-3, p-Toluenesulfonamide 98-64-6, Benzenesulfonamide,  
 p-chloro- 1129-26-6, Benzenesulfonamide, p-methoxy- 6250-31-3,  
 Sulfoximine, S-amino-S-phenyl-N-(phenylsulfonyl)- **89711-96-6**  
 , Phosphorodiamidic acid, (phenylsulfonyl)- **90090-66-7**,  
 Phosphoramidic acid, [(p-nitrophenyl)sulfonyl]-, dimethyl ester  
**90648-11-6**, Phosphorimidic acid, [(p-nitrophenyl)sulfonyl]-,  
 trimethyl ester **91114-21-5**, Phosphorodiamidic acid,  
 [(p-chlorophenyl)sulfonyl]- **92303-41-8**, Phosphorodiamidic  
 acid, (p-tolylsulfonyl)- 93456-58-7, Benzenesulfonimidoyl  
 chloride, p-chloro-N-[(p-chlorophenyl)sulfonyl]- 94892-50-9,  
 Sulfoximine, S-amino-S-p-tolyl-N-(p-tolylsulfonyl)- 95194-84-6,  
 Benzenesulfonimidoyl chloride, N-[(p-nitrophenyl)sulfonyl]-  
 95197-06-1, Benzenesulfonimidoyl chloride, p-chloro-N-[(p-  
 nitrophenyl)sulfonyl]- 95468-16-9, Dibenzenesulfonamide,  
 4-chloro-4'-nitro- 95980-81-7, Ethylamine, N-methyl-, O-methyl  
 O-2,4,5-trichlorophenyl phosphorothioate **96433-16-8**,  
 Dibenzenesulfonamide, 4-methoxy-4'-nitro- 96434-82-1, Sulfoximine,  
 S-amino-S-(p-chlorophenyl)-N-[(p-chlorophenyl)sulfonyl]-  
 96486-86-1, Benzenesulfonimidoyl chloride, p-methoxy-N-[(p-  
 nitrophenyl)sulfonyl]- 96486-87-2, p-Toluenesulfonimidoyl  
 chloride, N-[(p-nitrophenyl)sulfonyl]- 96651-16-0, Sulfoximine,  
 S-amino-S-(p-methoxyphenyl)-N-[(p-methoxyphenyl)sulfonyl]-  
 (preparation of)

=&gt;